

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A guide apparatus for guiding an advancing continuous ~~tape-like~~ fiber bundle used when winding the fiber bundle on a bobbin, which comprises:

a first guide and a second guide, each of said guides being disposed in a passage through which the fiber bundle is advanced, wherein ~~the~~ axis lines of the first and second guides are twisted away from each other in a space, and

a parallel guide, which is disposed at ~~the~~ a downstream side of the pair of the first and second guides on the passage, through which the fiber bundle is guided to the bobbin and which has ~~the~~ an axis line parallel to that of the bobbin,

a first fixed guide roll, which is disposed at an upstream side of the first guide on the passage, and which supplies the fiber bundle as a state that a direction of a width of the fiber bundle is parallel to a bobbin axis,

the first guide comprising a substantially flat guide, which guides the ~~tape-like~~ fiber bundle in a twisted state, ~~the fiber bundle being advanced in a state that a running direction of is at right angle to a bobbin axis and a tape face is parallel to the bobbin axis,~~ and which has the axis line thereof arranged so as to cross substantially at a right angle to that of the bobbin,

between the first fixed guide roll and the first guide, the direction of the width of the fiber bundle is twisted from a state that the direction of the width of the fiber bundle is parallel to the bobbin axis to a state on the first guide that the direction of the width of the fiber bundle is at a right angle to the bobbin axis,

the second guide comprising a conical guide on which the fiber bundle is advanced in a twisted state, on said parallel guide, the fiber bundle being twisted back to the same direction as the direction of the fiber bundle when being supplied from the first fixed guide

direction as the direction of the fiber bundle when being supplied from the first fixed guide roll, or being twisted further in the same direction to thereby turn the fiber bundle upside down, wherein

the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle are stabilized by means of said parallel guide.

Claim 2 (Canceled).

Claim 3 (Previously Presented): The guide apparatus according to claim 1 wherein the second guide is disposed so that the axis line thereof has an inclination angle of less than 90° toward the axis line of the bobbin.

Claim 4 (Canceled).

Claim 5 (Currently Amended): The guide apparatus according to claim 1 which comprises a common supporting means and a traverse mechanism wherein the pair of ~~the~~ first and second guides and the parallel guide are supported by means of said common supporting means so as to move in linkage, and the supporting means is reciprocally moved in the direction parallel to the axis line of the bobbin by means of said traverse mechanism along nearly the whole length of the bobbin.

Claim 6 (Currently Amended): A winding machine for winding an advancing continuous fiber bundle on a bobbin, which comprises:

a guide portion comprising the guide apparatus defined in claim 1, and a winding portion,

wherein, ~~in the guide portion, a first fixed guide roll is further disposed above the guide apparatus with the~~ an axis line of the first fixed guide roll in the guide portion being is disposed so as to be parallel to that the axis line of the bobbin.

Claim 7 (Currently Amended): The winding machine according to claim 6 wherein the first fixed guide roll is disposed ~~so that one first fixed roll is disposed~~ for a unit of bobbin, and the first fixed guide roll has a curved circumferential surface ~~depressed at~~ whose diameter is progressively reduced toward a center portion thereof.

Claim 8 (Currently Amended): The winding machine according to claim 7 which comprises a second fixed guide roll further disposed in parallel to the first fixed guide roll at ~~the upper stream side of~~ between the first fixed guide roll on the passage for advancing the continuous fiber bundle and ~~above the pair of the first guide,~~ and wherein the second guide is disposed in the guide apparatus, the second fixed guide roll comprising a flat roll.

Claim 9 (Currently Amended): The winding machine according to claim 6 which comprises a third fixed guide roll further disposed between the first fixed guide roll and the ~~pair of the guides~~ first guide, and a dancer roll disposed between the first fixed guide roll and the third fixed guide roll, wherein the first and the third guide rolls comprise flat rolls or have curved circumferential surfaces ~~depressed at~~ whose diameters are progressively reduced toward center portions thereof.

Claim 10 (Currently Amended): The winding machine according to claim 9 which comprises means for controlling the tension of the continuous fiber bundle based on the displacement of the dancer roll for controlling rotational driving of the bobbin, and wherein

each of the first and the third fixed guide rolls comprise flat rolls or have curved circumferential surfaces ~~depressed at~~ whose diameters are progressively reduced toward the center portions thereof.

Claim 11 (Currently Amended): The winding machine according to claim 9 which comprises means for controlling the tension of the continuous fiber bundle based on the displacement of the dancer roll for controlling rotational driving of the bobbin, and the first and the third fixed guide rolls comprise ~~a combination of~~ a flat roll and a combination with a roll having a curved circumferential surface depressed at whose diameter is progressively reduced toward a center portion thereof.

Claim 12 (Currently Amended): A winding machine for winding a plurality of advancing continuous fiber bundles respectively on a plurality of bobbins, which comprises:

a guide portion comprising a plurality of the guide apparatuses defined in claim 1, and a winding portion comprising plurality of bobbins,

wherein in the guide portion, ~~[[a]] the first fixed guide roll axis line thereof is parallel to that of the axis line of a bobbin disposed above the guide apparatuses, the first fixed guide roll comprising a single flat roll so as to guide the plurality of continuous fiber bundles simultaneously to each of the plurality of guide apparatuses~~ comprises a single flat roll, and the first guide, the second guide and the parallel guide respectively comprise a plurality of rolls, and

the plurality of continuous fiber bundles are guided to the first fixed guide roll so as to be guided simultaneously to each of the plurality of the first guide, the second guide and the parallel guide.

Claim 13 (Currently Amended): A method for making a bobbin of a continuous fiber bundle, wherein a plurality of continuous fiber bundles advancing on a passage are guided by guides and wound on the bobbin, which comprises:

~~guiding a tape-like continuous~~ the fiber bundle advancing on a passage and winding the fiber bundle on a bobbin by guides sequentially by a first guide and a second guide being disposed in a passage through which the fiber bundle is advanced, wherein axis lines of the first and second guides are twisted away from each other in a space,

~~disposing the first guide and the second guide such that the axis lines of the respective guides are in a relation twisted away from each other in a space, the guides comprising a first guide and a second guide, and~~

~~disposing a parallel guide at the downstream side of the pair of the guides on the passage, the parallel guide having an axis line parallel to that of the bobbin,~~

~~guiding the tape-like fiber bundle advanced in a state that a running direction is at right angle to a bobbin axis, and a tape face is parallel to the bobbin axis and advancing the fiber bundle in a twisted state, the first guide comprising a flat guide which has the axis line arranged so as to cross substantially at a right angle to the axis line of the bobbin or a conical guide which has the axis line arranged so as to cross with an angle θ to the axis line of the bobbin,~~

~~twisting back the fiber bundle advancing in a twisted state to the same direction as the direction of the fiber bundle when it is being supplied, or twisting further in the same direction to thereby turn the fiber bundle upside down, the second guide comprising a conical guide, and~~

~~winding the fiber bundle, which has been twisted back or turned, on the bobbin, wherein the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle are stabilized by means of the parallel guide~~

guiding the fiber bundle by a parallel guide, which is disposed at a downstream side of the first and second guides on the passage and which has an axis line parallel to that of the bobbin,

guiding the fiber bundle by a first fixed guide roll, which is disposed at an upstream side of the first guide on the passage, and supplying the fiber bundle to the first and second guides,

supplying the fiber bundle to the first and second guides in a condition that an axis line of a first fixed guide roll is parallel to an axis line of a bobbin axis,

guiding the fiber bundle in a twisted state by the first guide, the first guide comprising a substantially flat guide, which has an axis line thereof arranged so as to cross substantially at a right angle to the axis line of the bobbin,

between the fixed guide roll and the first guide, twisting the direction of the width of the fiber bundle, from a state that the direction of the width of the fiber bundle is parallel to the bobbin axis to a state on the first guide that the direction of the width of the fiber bundle is at a right angle to the bobbin axis,

the second guide comprising a conical guide, twisting back to the fiber bundle being advanced in a twisted state on said parallel guide to the same direction as the direction of the fiber bundle when being supplied from the first fixed guide roll, or twisting further in the same direction so as to turn the fiber bundle upside down, and

stabilizing the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle, by means of a parallel guide.

Claim 14 (Previously Presented): The method for making a bobbin of a continuous fiber bundle according to claim 13 which comprises forming the continuous fiber bundle so as to have 12,000 to 150,000 filaments of carbon fiber.

Claim 15 (Original): A carbon fiber bobbin obtained by the method defined in claim 13.

Claim 16 (Previously Presented): A guide apparatus for guiding an advancing continuous fiber bundle used when winding the fiber bundle on a bobbin, which comprises:

a first guide and a second guide, each of said guides being disposed on a passage on which the fiber bundle is advanced, wherein the axis lines of the guides are twisted away from each other in a space,

a parallel guide, which is disposed at a downstream side of the pair of the guides on the passage, through which the fiber bundle is guided to the bobbin, and which has the axis line parallel to that of the bobbin,

the first guide comprising a conical guide on which the fiber bundle is advanced in a twisted state, and which is disposed such that an oblique line with which the fiber bundle contacts first crosses at right angle to the axis line of the bobbin, and

the second guide comprising a conical guide on which the fiber bundle is advanced in a twisted state, on the parallel guide, the fiber bundle being twisted back to the same direction as the direction of the fiber bundle when it is being supplied, or being twisted further in the same direction thereby turning the fiber bundle upside down,

wherein the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle is stabilized by means of the parallel guide.